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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,001	07/08/2004	Kiyofumi Abe	2004_1006A	1730

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Washington, DC 20005-1503

EXAMINER
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TORRENTE, RICHARD T

ART UNIT	PAPER NUMBER
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2621

NOTIFICATION DATE	DELIVERY MODE
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04/12/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/501,001	<b>Applicant(s)</b> ABE ET AL.	
	<b>Examiner</b> RICHARD TORRENTE	<b>Art Unit</b> 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 44,45,48-52 and 55-57 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 44,45,48-52 and 55-57 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 101***

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim(s) 48, 49, 55 and 56 is/are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent<sup>1</sup> and recent Federal Circuit decisions<sup>2</sup> indicate that a statutory “process” under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. While the instant claim(s) recite a series of steps or acts to be performed, the claim(s) neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process. For example, it is not clear within which of the enumerated categories of patentable subject matter the claimed invention falls (Machine, Process, Manufacture, or Composition of Matter).

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<sup>1</sup> *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

<sup>2</sup> *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 44, 45, 48-52 and 55-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA) in view of NPL Draft ITU-T Rec. H.264 (IDS).

Regarding claim 51, AAPA discloses a coding method for coding blocks of picture data (see fig. 37), said coding method comprising: generating, by a command generation unit, a sequence of commands (see "command" in fig. 38) for respectively assigning frame-indices (see "reference index" in fig. 38), used for frame coding, to reference frames of the blocks of picture data (see "picture number" in fig. 38); adaptively switching (see P [0012]), by a processor and on a block-by-block basis of the blocks of picture data, between frame coding and field coding; specifying, by a reference frame specification unit (see P and B in fig. 38) and in a case where frame coding is performed on a block of picture data of the blocks of picture data (see fig. 39), a reference frame, which is referred to when coding the block of picture data (see "reference index" in fig. 38), according to a frame-index included in the assigned frame-indices assigned by the sequence of commands (see "reference index" in fig. 38); specifying, by a reference field specification unit (see fig. 41B) and in a case where field

coding is performed on the block of picture data, a reference field, which is referred to when coding the block of picture data, according to a field-index, which is for field coding the block of picture data (see "index" in fig. 38, where P [0004]-[0005] indicates the similar index is applicable as shown in fig. 41B); coding, by a reference index coding unit and as a reference index (see "index" in fig. 38), the frame-index, which is used for specifying the reference frame, in the case where frame coding is performed on the block of picture data (see P1-P3 in fig. 41A); and coding, by the reference index coding unit and as a reference index (e.g. see "index" in fig. 38), the field-index (see P1T-P3B in fig. 41B and fig. 40, wherein it is implied that the "T" and "B" is the field index), which is used for specifying the reference field, in the case where field coding is performed on the block of picture data.

Although AAPA discloses generating the frame and field index (see fig. 38, 41A and 41B); coding information indicating a maximum number of frame-indices (e.g. see "Max\_idx1" in fig. 39), it is noted that AAPA does not disclose wherein the field index is generated using the frame-index included in the assigned frame-indices; and determining a maximum number of field-indices to be double a value of the maximum number of frame-indices, wherein said specifying of the reference field includes determining the field-index so that a number of specified reference fields is not greater than the determined maximum number of field-indices.

However, NPL, in the same field on endeavor, discloses an adaptive frame/field coding wherein the field index is generated using the frame-index included in the assigned frame-indices (see section 8.3.6.2, page 54; e.g. see fig. 8-1); and determining

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a maximum number of field-indices to be double a value of the maximum number of frame-indices (see “ $PN=2 \times FN$ ” in section 8.3.6.2, page 54), wherein said specifying of the reference field includes determining the field-index so that a number of specified reference fields is not greater than the determined maximum number of field-indices (see fig. 8-1).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate NPL teachings of indexing into AAPA indexing for the benefit of proper management and use of the reference picture buffer.

Regarding claim 56, the claim(s) recite analogous limitations to claim 51, and is/are therefore rejected on the same premise.

Regarding claims 44, 49 and 50, although AAPA and NPL discloses analogous limitations to claim 51, it is noted that AAPA and NPL differs from the present invention in that it fails to particularly disclose a decoder to generate the analogous limitations. However, one of ordinary skill in the art would have had no difficulty in recognizing that the entire process of decompressing and decoding any compressed and coded signal is merely the reverse procedure of the encoding process, as clearly disclosed in AAPA (see P [0007]). Furthermore, it should be self evident to one skilled in the art from the teaching of AAPA and NPL that the adaptive predictive encoder is an art-recognized

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equivalent structure to an adaptive predictive decoder and is designed to be used along with a similar but in reverse sequence predictive decoder.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, having the reference of AAPA and NPL before him/her, to flexibly apply the reverse processing steps of the encoder of AAPA and NPL in a similarly designed decoder in order to be able to accurately decode any video signal that was compression encoded using the same predictive coding technique.

Regarding claim 52, AAPA, now incorporating the indexing of NPL further discloses wherein said specifying of the reference field includes: specifying, as the field-index, a doubled value of a value of the frame-index (see AAPA frame indices fig. 41B doubles fig. 41A), which is used for specifying a reference frame including the reference field, in a case where the reference field has a same parity as a parity of a field including the block of picture data (see AAPA fig. 41B); specifying a value obtained by adding one to the doubled value of the value of the frame-index in the case where the reference field has a different parity (see NPL page 54, section 8.3.6.2).

Regarding claim 55, the claim(s) recite analogous limitations to claim 52, and is/are therefore rejected on the same premise.

Regarding claim 57, the claim(s) recite analogous limitations to claims 51 and 52, and is/are therefore rejected on the same premise.

Regarding claims 45 and 48, AAPA, now incorporating the method of NPL, recite analogous limitations to claims 52 and 55, and is/are therefore rejected on the same premise.

### ***Response to Arguments***

4. Applicant's arguments with respect to claims 44, 45, 48-52 and 55-57 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wang et al. (US 2003/0099292) and Wang et al. (US 2003/0099294).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RICHARD TORRENTE whose telephone number is (571) 270-3702. The examiner can normally be reached on M-F: 7:30 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Richard Torrente/  
Examiner, Art Unit 2621

/Young Lee/  
Primary Examiner, Art Unit 2621

RT